

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1. to 33. (Canceled)

34. (New) A method for fabricating a structure in the form of a plate which method comprises:

providing at least one intermediate layer interposed between a substrate and a superstrate to form a structure, with the intermediate layer comprising at least one base material having distributed therein extrinsic atoms or molecules which differ from those of the base material; and

applying a heat treatment to the structure in a temperature range that causes the intermediate layer to become plastically deformable with the extrinsic atoms or molecules in the base material causing an irreversible formation of microbubbles or microcavities in the intermediate layer in a configuration and amount sufficient to weaken the intermediate layer.

35. (New) The method as claimed in claim 34, which further comprises continuing the heat treatment until it produces a rupture of the intermediate layer and, as a result, separation of the substrate and the superstrate.

36. (New) The method as claimed in claim 34, which further comprises applying forces between the substrate and the superstrate to bring about the rupture of the intermediate layer between the substrate and the superstrate due to the presence of the micro-bubbles or micro-cavities.

37. (New) The method as claimed in claim 34, wherein the forces are applied by a blade or water jet that is directed at the intermediate layer.

38. (New) The method as claimed in claim 34, which further comprises chemically attacking the intermediate layer of the structure to at least partially remove the intermediate layer between the substrate and the superstrate.

39. (New) The method as claimed in claim 34, wherein the extrinsic atoms or molecules cause the intermediate layer to be formed as a glass.

40. (New) The method as claimed in claim 34, wherein the extrinsic atoms or molecules cause an increase in thickness of the intermediate layer by as much as a factor of 3 or 4.

41. (New) The method as claimed in claim 34, wherein, after the heat treatment, the microbubbles or microcavities have a volume such that they are open on the substrate or superstrate side and furthermore that they are mutually open to constitute channels which are open to the side ends of the intermediate layer.

42. (New) The method as claimed in claim 41, which further comprises providing projecting portions in the substrate or superstrate which constitute notches that facilitate the formation of the channels.

43. (New) The method as claimed in claim 40, which further comprises cooling the structure by circulating a cooling fluid through the channels formed by the micro-bubbles or micro-cavities.

44. (New) The method as claimed in claim 40, which further comprises introducing a solution of acid into the channels to comically attack the intermediate layer.

45. (New) The method as claimed in claim 34, which further comprises reducing the thickness of the superstrate or substrate.

46. (New) The method as claimed in claim 34, wherein the substrate and the superstrate are formed from monocrystalline silicon.

47. (New) The method as claimed in claim 46, wherein the base material is formed from silica and the extrinsic atoms are atoms of phosphorus or boron, thus forming an intermediate layer of phospho-silicate glass or boro-phospho-silicate glass.

48. (New) The method as claimed in claim 47, wherein the concentration of phosphorus is in the range from 6% to 14% or the concentration of boron is up to 4%.

49. (New) The method as claimed in claim 34, wherein the heat treatment is carried out at a temperature in the range from 900°C to 1200°C.

50. (New) The method as claimed in claim 34, which further comprises, prior to conducting the heat treatment, carrying out an operation for depositing the intermediate layer on either of the substrate or the superstrate, and attaching the superstrate or substrate to the intermediate layer by molecular wafer bonding.

51. (New) The method as claimed in claim 50, which further comprises, prior to bonding, providing a thermal silicon oxide on either of the substrate or superstrate that does not include the intermediate layer.

52. (New) The method as claimed in claim 34, which further comprises, prior to bonding, providing a thermal silicon oxide on each of the substrate and superstrate, depositing the intermediate layer on the thermal silicon oxide on either of the substrate or the superstrate, and attaching the superstrate or substrate to the intermediate layer by molecular wafer bonding.

53. (New) The method as claimed in claim 34, which further comprises fabricating the plate as a silicon on insulator plate for the further fabrication of integrated electronic circuits or integrated opto-electronic circuits thereon.